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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,672	03/02/2004	Toru Gunji	HGM-131-A	2614
21828	7590	04/14/2005		EXAMINER
CARRIER BLACKMAN AND ASSOCIATES			DOLINAR, ANDREW M	
24101 NOVI ROAD			ART UNIT	PAPER NUMBER
SUITE 100				
NOVI, MI 48375			3747	

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/791,672	GUNJI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Andrew M. Dolinar	3747	

All participants (applicant, applicant's representative, PTO personnel):

(1) Andrew M. Dolinar. (3) \_\_\_\_\_

(2) William D. Blackman. (4) \_\_\_\_\_

Date of Interview: 11 April 2005.

Type: a) Telephonic b) Video Conference

c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1 and 6.

Identification of prior art discussed: US 1,149,518.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Amended claims as presented in a draft amendment were discussed. The examiner suggested that claim 6 be further amended as shown on the attached copy of the draft amendment included as part of this interview summary in order to distinguish over newly discovered patent US 1,149,518. The examiner advised that claim 1 would be allowable.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

## Summary of Record of Interview Requirements

### **Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record**

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### **Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews**

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

#### **Examiner to Check for Accuracy**

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Part of  
Interview Summary  
4/11/05

Attorney Docket No. HGM-131-A

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Gunji et al.  
Serial Number: 10/791,672  
Filed: 03/02/2004  
Group Art Unit: 3747  
Examiner: Dolinar, Andrew M.  
Confirmation No.: 2614

Title: **"THREADED FASTENER FOR AN INTERNAL COMBUSTION ENGINE AND INTERNAL COMBUSTION ENGINE INCORPORATING SAME"**

**PROPOSED DRAFT OF AMENDMENT A SUBMITTED FOR  
DISCUSSION PURPOSES ONLY APRIL 8, 2005**

Mail Stop Amendments  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

Introductory Comments

In response to the Office Action dated 15 February 2005, please amend the above-identified application as follows.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks** begin on page 6 of this paper.

**IN THE CLAIMS: PROPOSED CLAIM AMENDMENTS FOR DISCUSSION ONLY**

Please amend the claims as follows wherein insertions are underlined and deletions are indicated with strikethrough or double brackets. Please add new claims xxx. This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (currently amended). A bolt for use in fastening a first member to a second member; said bolt comprising a male threaded portion for insertion into a female threaded portion of a hole formed in the first member, the threaded portion comprising a uniform, continuous thread which extends over the entire threaded portion; said bolt comprising a bolt head and an unthreaded portion, the unthreaded portion extending between the bolt head and the threaded portion, the unthreaded portion having a length which is at least as long as that of the threaded portion; wherein the bolt is adapted to receive an axial load based on an external force applied to the first member; and wherein the male threaded portion comprises a low-rigidity portion, in which a hollow portion is formed concentric with a center axis of the male threaded portion and substantially circular in a cross section; and wherein said hollow portion is formed at a position intended to be placed overlapping part of a screwed portion formed where the male threaded portion is screwed into the female threaded portion in an axial direction.

Claim 2 (original). An internal combustion engine comprising a crankcase and a crankshaft

rotatably supported by a first bearing portion provided on the crankcase and a second bearing portion fastened to the first bearing portion with a bolt;

wherein said bolt comprises a male threaded portion screwed into a female threaded portion of a threaded hole formed in the first bearing portion, wherein an allowable stress of the first bearing portion is less than an allowable stress of the bolt, wherein an axial load based on an combustion load applied to the first bearing portion is applied to the bolt, and wherein the male threaded portion has a low-rigidity portion, in which a hollow portion concentric with a center axis of the male threaded portion and shaped substantially circular in a cross section is formed, formed at a position overlapping a screwed end portion of a screwed portion where the male threaded portion is screwed into the female threaded portion in an axial direction

Claim 3 (original). The internal combustion engine of claim 2, wherein the bolt is formed from a ferrous metal, and wherein the first bearing portion is formed from a metal comprising aluminum

Claim 4 (original). An internal combustion engine comprising a cylinder block fastened to a crankcase rotatably supporting a crankshaft, with a bolt having a male threaded portion screwed into a female threaded portion of a threaded hole formed in the crankcase,

wherein an allowable stress of the crankcase is less than an allowable stress of the bolt, wherein an axial load based on an combustion load applied to the crankcase is applied to the bolt,

and wherein the male threaded portion comprises a low-rigidity portion, in which a

hollow portion concentric with a center axis of the male threaded portion and substantially circular in a cross section is formed at a position overlapping a screwed end portion of a screwed portion, where the male threaded portion is screwed into the female threaded portion in an axial direction.

Claim 5 (original). The internal combustion engine of claim 4, wherein the bolt is formed from a ferrous metal, and wherein the crankcase is formed from a metal comprising aluminum.

Claim 6 (currently amended). A threaded fastener for use in connecting engine components together, comprising:  
*unthreaded*  
a cylindrical body portion;  
*unthreaded*  
a substantially cylindrical end portion integrally attached to the body portion, said end portion having a uniform, continuous male threads thread formed therearound and extending along the entire length of the end portion, the end portion having a coaxial cylindrical bore formed therein with a substantially circular cross-sectional shape;  
wherein the body portion has a length which is at least as long as the length of the end portion and wherein the fastener is adapted to withstand an axial stress applied thereto;  
*a head portion attached to the body portion.*

Claim 7 (original). The fastener of claim 6, wherein the end portion comprises a tip having a conically tapered hole therein in communication with the cylindrical bore.

Claim 8 (original). The fastener of claim 6, wherein the fastener is a bolt.

Claim 9 (original). The fastener of claim 6, wherein the fastener is a stud.

Claim 10 (original). The fastener of claim 6, wherein the fastener is formed from a ferrous metal, and is adapted to be used with an engine component formed from a metal comprising aluminum.

Claim 11 (original). The fastener of claim 6, wherein the area of the end portion surrounding the cylindrical bore is an elastically deformable low-rigidity portion.

**REMARKS**

The applicant gratefully acknowledges the Examiner's indication that claims 2-5 are allowed.

Upon entry of the present amendment, claims 1-11 are pending in the application, of which claims 1, 2, 4, and 6 are independent.

The above-identified Office Action has been reviewed, the references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present Amendment is submitted. It is contended that by the present amendment, all bases of rejection set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

**Claim Rejection under 35 USC 102**

On page 2 of the Office Action, the Examiner rejected claims 1, 6-9, and 11 under 35 USC 102(b) as being anticipated by Turkish (US 2,542,377). In the rejection, the Examiner states that the screw shown in Turkish's Fig. 2 has a central bore 24 forming a hollow portion as claimed.

Upon review of Turkish, the applicant notes that Turkish discloses a self-locking adjustment screw having a head 12 and a shaft 14 in which the shaft includes a pair of axially spaced threaded portions 16, 18. The threads of first threaded portion 16 are axially offset from the threads of the second threaded portion 18. Intermediate the two threaded portions 16, 18 is a reduced unthreaded portion 20. The reduced portion 20 is provided with plural helix slots 22 so as to provide axial resiliency, and the shaft 14 may also include a central bore 24 extending from

the extremity of shank 14 through second threaded portion 18 and throughout the length of the unthreaded portion 22.

Although the applicant agrees that Turkish discloses the invention as broadly claimed in claims 1 and 6, the applicant respectfully asserts that the applicant's invention is clearly different from that of Turkish. Specifically, the applicant's male thread formed on the exterior surface of the bolt is a single continuous thread, whereas Turkish discloses plural thread sections having corresponding relative thread offsets so as to achieve the self-locking feature of that invention.

In addition, the applicant discloses a bolt having a lengthy shank portion, wherein the shank includes both a non-threaded portion and a threaded portion. As seen in the applicant's Figures 2, 4, and 5, the non-threaded cylindrical portion 43 is at least as long as the threaded portion 44. The non-threaded cylindrical portion is provided in a length which permits it to extend completely through the bottom journal supporting wall 32 of the bottom half of the crankcase 3. As seen in Fig 2, for example, the threaded portion 44 begins at approximately the transition between the bottom journal supporting wall 32 and the top journal supporting wall 31.

Therefore, the applicant has amended claims 1 and 6 herein to more clearly distinguish the applicant's invention from that disclosed in the prior art. Specifically, these claims have been amended herein to recite that the male thread is uniform and continuous along the length of the threaded portion. These claims have been additionally amended to include a recitation that the cylindrical portion has a length which is at least as long as the length of the threaded portion. These features are not disclosed or suggested by the prior art, and thus reconsideration of the rejection and the withdrawal thereof is respectfully requested.

As regards claim 7, the applicant respectfully disagrees that Turkish discloses a threaded

fastener in which the end portion comprises a tip having a conically tapered hole therein in communication with the cylindrical bore, as recited by the applicant. Turkish does not disclose a tapered hole formed at the tip of the end portion. In contrast, the applicant discloses such a structure at the location wherein the hollow portion intersects the terminal end of the applicant's bolt. Specifically, the applicant provides an outwardly opening taper 45b, which results in a thin portion 44b1 at the terminal end of bolt 40. This thin portion 44b1 is critical to permitting the terminal thread turn 44a to be more elastically deformed than the remainder of the elastic portion (as defined by the depth of hole 45 within bolt 40), thereby reducing the concentrated stress of the terminal end of the bolt on the female threads of the engine case hole.

On page 3 of the Office Action, the Examiner rejected claim 10 under 35 USC 103(a) as being unpatentable over Turkish. The Examiner states that Turkish discloses the claimed invention except for an express disclosure of the fastener being made of a ferrous metal. The Examiner further states that it would have been obvious to make the fastener of Turkish from a ferrous metal since such fasteners are commonly made of a ferrous metal and it has been held that a selection of a known material is obvious,

### Conclusion

For all of the above mentioned reasons, applicant requests reconsideration and withdrawal of the rejection of record, and allowance of the pending claims.

Applicant respectfully submits that the above amendments are fully supported by the original disclosure, including the drawings and claims, no new matter is introduced by the above

amendments. The application is now believed to be in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner is not fully convinced of the allowability all of the claims now in the application, applicant respectfully requests that the Examiner telephonically contact applicant's undersigned representative to expeditiously resolve prosecution of the application.

Favorable reconsideration is respectfully requested.

Respectfully submitted,

Customer No. 21828  
Carrier, Blackman & Associates, P.C.  
24101 Novi Rd, Ste. 100  
Novi, Michigan 48375  
April \_\_\_, 2005

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William D. Blackman  
Attorney for Applicant  
Registration No. 32,397  
(248) 344-4422

**CERTIFICATE OF TRANSMISSION**

I hereby certify that this correspondence is being sent via facsimile transmission to the US Patent & Trademark Office on April \_\_\_, 2005.

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Dated: April \_\_\_, 2005

WDB/kmm



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# Fax Cover Sheet

Date: 11 Apr 2005

To: William D. Blackman	From: Andrew M. Dolinar
Application/Control Number: 10/791,672	Art Unit: 3747
Fax No.: (248) 344-1096	Phone No.: (571) 272-4840
Voice No.: (248) 344-4422	Return Fax No.: (703) 872-9306
Re: interview	CC:
<input type="checkbox"/> Urgent <input type="checkbox"/> For Review <input type="checkbox"/> For Comment <input type="checkbox"/> For Reply <input checked="" type="checkbox"/> Per Your Request	

Comments:

Please find Interview Summary form PTOL-413 and attachment included herewith.

Number of pages 12 including this page

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Comments:

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